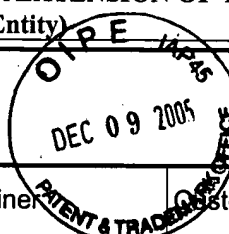


**COMBINED TRANSMITTAL OF APPEAL BRIEF TO THE BOARD OF PATENT  
APPEALS AND INTERFERENCES & PETITION FOR EXTENSION OF TIME  
UNDER 37 C.F.R. 1.136(a) (Large Entity)**

Docket No.  
**02530025AA**

In Re Application Of: **Harano**



Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/043,154	01/14/2002	L. West	30743	2682	5070

Invention: **PORTABLE RADIO DEVICE HAVING TWO SWITCHED ANTENNAS RESPONSIVETO HAND POSITION**

**COMMISSIONER FOR PATENTS:**

This is a combined Transmittal of Appeal Brief to the Board of Patent Appeals and Interferences and petition under the provisions of 37 CFR 1.136(a) to extend the period for filing an Appeal Brief.

Applicant(s) hereby request(s) an extension of time of (check desired time period):

☒ One month      ☐ Two months      ☐ Three months      ☐ Four months      ☐ Five months

from: 11/10/2005      until: 12/09/2005  
Date      Date

The fee for the Appeal Brief and Extension of Time has been calculated as shown below:

Fee for Appeal Brief: \$500.00

Fee for Extension of Time: \$120.00

**TOTAL FEE FOR APPEAL BRIEF AND EXTENSION OF TIME:** \$620.00

The fee for the Appeal Brief and extension of time is to be paid as follows:

☒ A check in the amount of **\$620.00** for the Appeal Brief and extension of time is enclosed.

☐ Please charge Deposit Account No. \_\_\_\_\_ in the amount of \_\_\_\_\_

☒ The Director is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. **50-2041** 12/09/2005 JADD01 00000029 10043154

☒ Any additional filing fees required under 37 C.F.R. 1.16.

02 FC:1251

120.00 0P

☒ Any patent application processing fees under 37 CFR 1.17.

☒ If an additional extension of time is required, please consider this a petition therefor and charge any additional fees which may be required to Deposit Account No. **50-2041**

☐ Payment by credit card. Form PTO-2038 is attached.

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

**COMBINED TRANSMITTAL OF APPEAL BRIEF TO THE BOARD OF PATENT  
APPEALS AND INTERFERENCES & PETITION FOR EXTENSION OF TIME  
UNDER 37 C.F.R. 1.136(a) (Large Entity)**

Docket No.  
**02530025AAM**

In Re Application Of:

**Harano**

Application No.

**10/043,154**

Filing Date

**01/14/2002**

Examiner

**L. West**

Customer No.

**30743**

Group Art Unit

**2682**

Confirmation No.

**5070**

Invention: **PORTABLE RADIO DEVICE HAVING TWO SWITCHED ANTENNAS RESPONSIVETO HAND  
POSITION**

**TO THE COMMISSIONER FOR PATENTS:**

This combined Transmittal of Appeal Brief to the Board of Patent Appeals and Interferences and petition for extension of time under 37 CFR 1.136(a) is respectfully submitted by the undersigned:



*Signature*

Dated: **December 9, 2005**

**Marshall M. Curtis**

**Reg. No. 33,138**

**Whitham, Curtis & Christofferson, P.C.  
11491 Sunset Hills Road, Suite 340  
Reston, VA 20190  
(703) 787-9400**

**Certificate of Transmission by Facsimile\***

I certify that this document and authorization to charge deposit account is being facsimile transmitted to the United States Patent and Trademark Office

(Fax no. \_\_\_\_\_) on \_\_\_\_\_

(Date)

*Signature*

*Typed or Printed Name of Person Signing Certificate*

**\*This certificate may only be used if paying by deposit account.**

**Certificate of Mailing**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on \_\_\_\_\_

(Date)

*Signature of Person Mailing Correspondence*

*Typed or Printed Name of Person Mailing Correspondence*

CC:

02530025AA



1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re patent application of:

Nobuya Harano

Confirmation No.: 5070

Serial No.: 10/043,154

Group Art Unit: 2682

Filed: January 14, 2002

Examiner: Lewis G. West

Appeal No:

For: PORTABLE RADIO DEVICE HAVING TWO SWITCHED ANTENNAS  
RESPONSIVE TO HAND POSITION

Commissioner for Patents  
PO Box 1450  
Alexandria, Virginia 22313-1450

APPELLANT'S BRIEF UNDER 37 C.F.R. §41.37

This brief, which is filed herewith in triplicate, is in furtherance of the Notice of Appeal, filed in this case on September 9, 2005. A check in the amount of \$500.00 to cover the fee for filing this Appeal Brief is attached. A petition for a one-month extension of time and fee therefor is being concurrently filed herewith.

This brief contains these items under the following headings, and in the order set forth below (37 C.F.R. §41.37(c)):

I. REAL PARTY IN INTEREST

12/12/2005 JADD01 00000029 10043154

01 FC:1402

500.00 0P

II. RELATED APPEALS AND INTERFERENCES

III. STATUS OF CLAIMS

IV. STATUS OF AMENDMENTS

V. SUMMARY OF CLAIMED SUBJECT MATTER

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

VII. ARGUMENTS

- ☐ ARGUMENT VIIA. REJECTIONS UNDER 35 U.S.C. §112, FIRST  
PARAGRAPH
- ☐ ARGUMENT VIIB. REJECTIONS UNDER 35 U.S.C. §112, SECOND  
PARAGRAPH
- ☐ ARGUMENT VIIC. REJECTIONS UNDER 35 U.S.C. §102
- ☒ ARGUMENT VIID. REJECTIONS UNDER 35 U.S.C. §103
- ☐ ARGUMENT VIIE. REJECTION OTHER THAN 35 U.S.C. §§102, 103  
AND 112

VIII. CLAIMS APPENDIX

IX. EVIDENCE APPENDIX

X. RELATED PROCEEDINGS APPENDIX

I. REAL PARTY IN INTEREST

The real party in interest in the appeal is:

☐ the party named in the caption of this brief.

✓the following party:

NEC Corporation of Japan

## II. RELATED APPEALS AND INTERFERENCES

With respect to other appeals, interferences or judicial proceedings that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal:

☒ there are no related appeals, interferences or judicial proceedings related to, which directly affect or may be directly affected by or have a bearing on the Board's decision in this pending Appeal.

☐ these are as follows:

### III. STATUS OF CLAIMS

The status of the claims in this application are is as follows:

#### A. Total number of claims in Application

The claims in the application are: Claims 1 - 3, 5 - 12, 14, and 15.

#### B. Status of all the claims:

1. Claims cancelled: Two claims have been cancelled. They are claim 4 and claim 13.

2. Claims withdrawn from consideration but not cancelled: None

3. Claims pending: Claims pending are claims 1 - 3, 5 - 12, 14, and 15.

4. Claims allowed: None

5. Claims rejected: Claims rejected are claims 1 - 3, 5 - 12, 14, and 15.

#### C. Claims on Appeal.

The claims on appeal are: Claims 1 - 3, 5 - 12, 14, and 15.

#### IV. STATUS OF AMENDMENTS

The status of amendments filed subsequent to the final rejection are as follows:

No amendments have been filed subsequent to the final rejection mailed July 14, 2005. The previous response which has presumably been entered, contained no amendments to the claims. The most recent amendments to the claims were presented in an amendment under 37 C.F.R. §1.116 filed September 10, 2004, and presumably entered as requested in a Request for Continued Examination filed October 21, 2004.



## V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention as defined in the claims on appeal is directed to an improved portable terminal device for radio communication having a plurality of antennas (2, 3) at different locations within the device housing (1). The problem addressed by the invention is that when a portable radio device is held by a user, the proximity of the user's head or hand (4) to an antenna (2, 3) or covering thereof by a head or hand can cause deterioration of the antenna characteristics. By locating multiple antennas at separated locations within the housing of the device and providing switching capabilities (7) directly responsive to the covering of an antenna by a head or hand that enable the device to select one antenna (e.g. 2 or 3) for transmission among the plurality of available antenna, so that the best signal strength and antenna characteristics can be used for transmission and reception of the radio signals.

In the subject invention, the plurality of antennas will include at least two antenna (2, 3) that are described as the first antenna (2) and the second antenna (3). The first antenna is located at one end of the housing of the device and the second antenna is located at the other end of the housing. The two antenna are connected to a radio unit by a switch (7) so that one or the other of the two antennas is selectively connected to the radio unit (5) for two-way communication. When connected to the radio either antenna provides the power level and radiation pattern for enabling full two-way communications. The switch (5) is controlled by a controller (6) which receives an input from a sensor (8). In practice, a plurality of sensors can be used, at least one of which is placed in proximity to one of the antennas. These sensors may be touch sensitive, optical sensors, or impedance change sensors. Thus, when the user places his hand in proximity to an antenna, this condition is sensed and the controller causes the switch to select the other antenna, thereby maintaining a good communication link at all times.

Three key features which distinguish the subject invention are: 1) the plurality

of antennas (2, 3) of which each antenna is capable of sustaining two-way communication, 2) a sensor (8) that detects proximity of the user's hand or head to one of the plurality of antennas, and 3) a switch (7) which allows one of the plurality of antenna to be selected for two-way communications.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The issues presented in this Appeal are:

Whether claims 1, 3, 5, 7 and 8 are obvious over a combination of US Patent 6,678,532 to Mizoguchi in view of US Patent 6,456,856 B1 to Werling.

Whether claims 9, 11, 12, and 15 are obvious over a combination of US Patent 6,456,856 B1 to Werling in view of US Patent 5,224,151 to Bowen.

Whether claim 2 is obvious over a combination of US Patent 6,678,532 to Mizoguchi in view of US Patent 6,456,856 B1 to Werling and US Patent 5,905,467 to Narayanaswamy.

Whether claim 6 is obvious over a combination of US Patent 6,678,532 to Mizoguchi in view of US Patent 6,456,856 B1 to Werling and US Patent 5,224,151 to Bowen.

Whether claim 10 is obvious over a combination of US Patent 6,456,856 B1 to Werling in view of US Patent 5,224,151 to Bowen and US Patent 5,905,467 to Narayanaswamy et al..

Whether claim 14 is obvious over a combination of US Patent 6,456,856 B1 to Werling in view of US Patent 5,224,151 to Bowen and US Patent 6,678,532 to Mizoguchi.

ARGUMENT VIIA. REJECTIONS UNDER 35 U.S.C. §112, FIRST PARAGRAPH

There are no rejections under 35 U.S.C. §112, first paragraph.

02530025AA

ARGUMENT VIIB. REJECTIONS UNDER 35 U.S.C. §112, SECOND PARAGRAPH

There are no rejections under 35 U.S.C. §112, second paragraph.

02530025AA

12

ARGUMENT VIIC. REJECTIONS UNDER 35 U.S.C. §102

There are no rejections under 35 U.S.C. §102.

## ARGUMENT VIID. REJECTIONS UNDER 35 U.S.C. §103

In the final Office Action mailed July 14, 2005, (the “Final Rejection”), claims 1 - 3, 5 - 12, 14, and 15 were rejected under 35 U.S.C. §103 as unpatentable over various combinations of U.S. Patents. Two U.S. patents were cited as the primary references: Mizoguchi, and Werling. Additionally, two further U.S. patents were cited as secondary references Bowen, and Narayanaswamy. More specifically, claims 1, 3, 5, 7, and 8 have been rejected under 35 U.S.C. §103 as being unpatentable over Mizoguchi in view of Werling et al., claims 9, 11, 12 and 15 have been rejected under 35 U.S.C. §103 as being unpatentable over Werling et al. in view of Bowen et al., claim 2 has been rejected under 35 U.S.C. §103 as being unpatentable over Mizoguchi in view of Werling et al. and Narayanaswamy et al., claim 6 has been rejected under 35 U.S.C. §103 as being unpatentable over Mizoguchi in view of Werling et al. and Bowen et al., claim 10 has been rejected under 35 U.S.C. §103 as being unpatentable over Werling et al. in view of Bowen et al. and Narayanaswamy et al., and claim 14 has been rejected under 35 U.S.C. §103 as being unpatentable over Werling et al. in view of Bowen et al. and Mizoguchi. Applicant respectfully submits that claims 1 - 3, 5 - 12, 14, and 15 are not obvious over the various combinations of prior art asserted by the Examiner because none of the references either singly or in any combination provide the explicitly recited features which thus patentably distinguish the present invention. The references cited do not provide multiple antennas with a sensing feature that allows each of the plurality of antennas to be selected via a switch for two-way communications.

Additionally, the Examiner has made an improper conclusion that there has been an admission of obviousness on the record in the March 16, 2005 amendment submitted by the Applicant. The amendment on page 10, lines 10 - 12 has a typographical error that omitted “not” from the sentence identified by the Examiner. From the context of that passage and the sentence itself, this is clearly a typographical

error as the argument for which this sentence is a concluding statement which identifies the specific features that Mizoguchi and Werling do not provide. Furthermore, the opening sentence of the argument traverses the rejections and states, “This rejection is respectfully traversed for the reason that the combination of Mizoguchi and Werling et al. does **not** teach, suggest or otherwise make obvious the claimed invention.” Thus, contrary to the Examiner’s contention, it is respectfully submitted that, in view of the context of the passage cited by the Examiner, and which the Examiner must consider in its entirety, no admission has been or can properly be considered to have been made. See, for Example, In re Nomiya, 184 USPQ 607 (CCPA, 1975).

#### PRIOR ART RELIED UPON BY THE EXAMINER

##### Mizoguchi

Mizoguchi is directed to a portable radio communication device and is concerned with the problem of decrease of electrical field intensity around the antenna when the (external) antenna comes into contact with the body of the user. However, Mizoguchi discloses only a single antenna (e.g. 11) capable of two-way communication and simply generates a “notice signal” when that antenna is not functioning properly due to body contact or proximity. Detection of body contact or proximity is performed only indirectly by detecting reflected power from the antenna (which may be due to change of antenna impedance but not a direct measure thereof - Figure 9, column 6, lines 23 - 67 and column 7 lines 60+) or by received signal strength at a second “receive only” antenna 11b (see column 9, line 67) which is, in fact, described and illustrated as being proximate to antenna 11a within the housing (see, especially, Figure 14 and column 9, lines 25 - 30). In the latter case, the electric field strength at each of the two antennas is separately detected and the separately



detected signals are compared in the CPU during an idle time S3. Switching for the separate detection of signal strengths at the respective antennas is evidently a programmed operation of the CPU in order to perform separate signal strength detection and not responsive thereto or any other sensed condition. In response to detection of a change in signal strength either as reflected or as separately detected comparison of field strength at the two respective antennas, Mizoguchi notifies a user when a part of the users body (e.g., hand or head, etc.) is touching the transmission antenna of a portable phone through some audible or visual indicator so that the user may take corrective action manually.

Werling et al.

Werling et al. is directed to a portable radio communication apparatus having a single antenna structure or array having a plurality of directional antennas as separately controllable elements such that the radiation pattern of the overall antenna structure or array can be modified. Werling et al. modifies the propagation pattern of an antenna array to reduce radio wave emission in the direction of the user's head. Werling et al. has multiple antennas that all transmit simultaneously to generate a radiation pattern which is as omnidirectional as possible from a single nominal location although directional elements may be selectively deactivated in response to detection of the close proximity of the user by passive proximity detectors (detecting temperature and/or humidity). Werling et al. makes a clear distinction between such passive proximity detectors and approaches to detecting proximity of an antenna to human tissue through detected signal strength (see column 1, line 52 through column 2, line 34).

Bowen et al.

Bowen et al. is directed to enabling a portable communication handset to

switch between operating as a handset or as a speaker phone based on proximity to a user. The means for switching between the handset mode or the loudspeaker mode for Bowen et al. is by using an infrared detector to sense the distance of the handset from the user's ear. Once the handset is detected to be more than a certain distance from the user's ear, the handset switches to loudspeaker mode. Bowen et al. is not at all concerned with the antenna arrangement of the portable communications handset and the infrared proximity detection merely serves to control sound pressure levels and frequency response in the audible range from a single microphone and a single speaker.

Narayanaswamy et al.

Narayanaswamy et al. provides a mobile communication device with two antennas 101, 102 or 204, 205. These antennas are located within the housing of the communication device and the second antenna is located one half wavelength from the first antenna by placing the second antenna in a portion of the housing which is extendable by unfolding, a sliding extension or the like in order to provide received signal strength enhancement through what is referred to as antenna diversity. The signals from the respective antennas can be selectively coupled to a receiver based on relative signal strength or combined to enhance received signal strength (see column 4, line 47 through column 5, line 6). For transmission, Narayanaswamy et al. merely couples the signal to one antenna or the other "in the conventional manner" (column 5, lines 7 - 10) and is silent in regard to switching between them, particularly in regard to performing switching in response to degradation of antenna transmission characteristics or detected proximity of a user.

Narayanaswamy et al. also contains a citation of U. S. Patent 5,337,061 to Pye et al. While the Examiner does not appear to refer to this patent or to rely on the patent or its citation in any way, in the interest of completeness, it is respectfully submitted

that Pye et al. is directed to a mobile radio communication device having two antennas but having a carefully designed mismatch between the antennas. The characteristics of the principal antenna are apparently degraded significantly when the housing is folded and second antenna, preferably in the form of a flap antenna, is provided for reception under those circumstances. However, when the device is unfolded and the characteristics of the principal antenna are no longer degraded and while the device is in use, the secondary antenna will be degraded by proximity to the head of the user. This mismatch of antenna impedances, augmented by changes in impedance of the respective antennas when the device is folded or, alternatively, in use in an unfolded configuration with the secondary/flap antenna proximate to the user's head, allows the respective antennas to be used mutually exclusively of each other or substantially so without switching between them, particularly in response to any sensed condition.

Therefore, it is respectfully submitted that the description of Pye et al. in Narayanaswamy et al. is not entirely accurate and may be misleading in the breadth of terminology used in the description thereof in narayanaswamy et al. It is also respectfully submitted that the present invention differs from Pye et al. in much the same features as it differs from prior art applied by the Examiner (and thus inapplicable to the present invention) and it may be helpful in consideration of the propriety of the asserted grounds of rejection to compare the description of Pye et al. in Narayanaswamy et al. with the actual Pye et al. patent. A copy of the Pye et al. patent is being concurrently submitted with this Appeal Brief for the convenience of the USPTO.

#### THE EXAMINER'S APPLICATION OF THE PRIOR ART

The rejection of claims 1, 3, 5, 7 and 8 based on Mizoguchi and Werling et al.

Of this group of claims, claim 1 is independent and claims 3, 5, 7 and 8 are

dependent thereon. In regard to independent claim 1, the Examiner asserts that Mizoguchi discloses a portable radio device having a first antenna for transmission provided in a lower part of the housing and a second antenna disposed in an upper part of the housing, a sensor for detecting when one of the antennas is covered and outputting a detection signal and a means for switching between the antennas. The Examiner admits that Mizoguchi does not teach that the second antenna is capable of both transmission and reception and cites Werling et al. for providing switching between a plurality of antennas based on detection of deterioration of antenna characteristics. In regard to dependent claims 3, 5, 7 and 8, the Examiner merely asserts that the combination of Mizoguchi and Werling et al. and, while citations of a particular passage are provided (the same one and one-half column passage for each claim) the Examiner does not indicate the document in which the passage which is relied upon appears.

#### Argument

In the statement of this ground of rejection, the Examiner is incorrect in asserting that Mizoguchi teaches antennas disposed in upper and lower parts of the housing parts of the housing and that they are selectively switched for use for radio communication or to be capable of transmission or in response to an antenna being covered. The two antennas of the second embodiment Mizoguchi (the first embodiment having only one antenna) are disclosed and illustrated as being proximate to each other and are only switched to compare electrical field strength in accordance with programming of the CPU and not in response to detection of one of the antennas being covered, much less based on a detection signal from a sensor capable of such a detection. Again, when reflected signal is increased in Mizoguchi or electrical field strength changes in Mizoguchi, the operator is notified by a signal to take corrective action and no automatic corrective action is taken, much less switching antennas

“capable of transmission” (amendatory language submitted September 10, 2004 to which the Examiner has not directly responded). The language used by the Examiner in the statement of the ground of rejection also glosses over the explicit claim recitation in claim 1 of detection of “when the first antenna *or* the second antenna *is covered*”. As pointed out above, Mizoguchi only detects the amount of reflected power or compares electrical field strength (and discloses doing so at normal transmission power - which Werling et al. excoriates as “noxious” at column 2, lines 31 - 35, of Werling et al.) which is not a direct indication of an antenna being “*covered*” as are a change of antenna impedance (claim 8 - which can be done at low power) or touch or optical sensors (claims 5 and 6, respectively).

These deficiencies of Mizoguchi are not mitigated by the additional teachings of Werling et al. as summarized above. Werling et al. does not teach different antennas in different locations in the housing or even distinct upper and lower parts of a housing, *per se*. Werling et al. teaches passive sensors for sensing the proximity of human tissue through temperature or humidity but does not detect antenna condition or deterioration of antenna characteristics but only the direction of the presence of human tissue sufficiently proximate to be of concern. (The Examiner further exacerbates confusion on this point and further glosses the actual claim recitations by the phrases “a detector for detecting the *deterioration of antenna characteristics*” and “for switching...the operation from the *deteriorated transmission antenna* to a different transmission antenna” in regard to Werling et al. On the contrary, Werling appears to assume that the antenna characteristics are not necessarily deteriorated since it seeks to cause a change in antenna radiation pattern from a strong omnidirectional pattern to a similarly strong, not deteriorated pattern which does not have a significant component in the direction of human tissue sufficiently proximate to be damaged by a high-power signal which could not be radiated if the antenna characteristics were deteriorated and which apparently would apply to the entire antenna array of Werling et al.)

Thus, while Werling et al. may strongly suggest that body contact or proximity sensors relying on high-power reflected power or comparative electrical field strength in the proximity of an antenna as taught by Mizoguchi may be undesirable compared to other sensor arrangements, Werling et al. is directed to a much different problem from that of the invention while Mizoguchi takes a much different approach and does not teach any arrangement for providing an automatic response to the problem addressed by the invention. Thus, the combination of fair teachings and suggestions of Mizoguchi and Werling et al. do not teach or suggest provision of different antennas at different locations within a housing or switching between them based on the output of a sensor detecting if an antenna is covered and do not lead to an expectation of success in providing an automatic response to covering of an antenna by substitution of a differently located antenna. Since the Examiner has effectively ignored or at least erred in the evaluation of Mizoguchi and Werling et al. in regard to the explicit recitations of the claims as discussed above, it is respectfully submitted that the Examiner has not made and cannot make a *prima facie* demonstration of obviousness of any of independent claim 1 or claims 3, 5, 7 or 8 depending therefrom based on the references relied upon. It is respectfully submitted that the erroneous assertions by the Examiner are evidentiary of hindsight being employed, as well.

Additionally, it is respectfully submitted that claims 3, 5, 7 and 8 are separately patentable. Neither Mizoguchi nor Werling et al. teaches or suggests the particular types of sensors recited in claims 5 or 8 (or claim 6) as alluded to above, particularly for the purpose of detecting an antenna being “covered” or distinguishing between antennas to designate a particular antenna as a default antenna (Mizoguchi having only a single antenna capable of transmission and Werling et al. teaching a single antenna array comprised of a plurality of directional antenna components, none of which functions as a default antenna with respect to other directional antenna components) as recited in claim 3 or using a plurality of sensors to sense an “extent” of “covering”

of an antenna. The Examiner has merely made broad assertions as to the content of the “combination of Mizoguchi and Werling” citing the same passage (apparently of Mizoguchi) for each of these disparate features of the invention. Therefore, it is respectfully submitted that no *prima facie* demonstration of obviousness has been made or can be made in regard to the further recitations of these dependent claims. As in the case of claim 1, the references relied upon either do not contain the teachings or suggestions the Examiner attributes to them or the actual recitations of the claims are glossed over as well as being logically flawed. For example, it is inconceivable that a reference could teach use of a plurality of sensors to detect an extent of “covering” of an antenna when it does not teach or suggest *any* sensor for detecting “covering” at all, regardless of extent.

The rejection of claims 9, 11, 12 and 14 based on Werling et al. and Bowen et al.

Of this group of claims, claim 9 is an independent claim and claims 11, 12 and 15 are dependent thereon. In regard to claim 9, somewhat similarly to the discussion of claim 1, the Examiner asserts that Werling et al. teaches a mobile radio communication device having a plurality of antenna *separately provided*, a detector for detecting “deterioration of an antenna characteristic” and switching “from the deteriorated transmission antenna to a different transmission antenna”. The Examiner admits that Werling does not disclose an optical sensor and cites Bowen et al. for such a teaching.

Argument

Similarly to the above discussion of the rejection of claim 1, the Examiner is incorrect in regard to the asserted teachings of Werling et al. and the terminology used by the Examiner in the statement of this ground of rejection glosses significant *explicit* recitations of the claims. Werling et al. does not, in fact, teach “ a plurality of

antennas *separately* provided” (the antennas of Werling et al. being components of a *single*, omnidirectional array), a detector for detecting the *deterioration of an antenna characteristic* (but appears to assume that antenna characteristics are not deteriorated, as discussed above while only detecting the direction of proximate human flesh) or switching “from the deteriorated transmission antenna to a different transmission antenna” (Werling et al. only teaching switching to alter the directional pattern of the antenna in the direction of detected proximate human flesh independently of any possible deterioration of antenna characteristics). While Bowen et al. teaches an optical proximity sensor, it teaches an arrangement for altering modes of operation between normal portable telephone operation and speakerphone operation as discussed above and does not mitigate any of the deficiencies of Werling et al. which the Examiner either ignores or glosses. Moreover, while the optical sensor of Bowen et al. may not radiate strong power at radio frequencies, it is certainly not “passive” as Werling et al. teaches to be desirable and thus Bowen teaches away from Werling et al. Again, Werling et al. does not contain the teachings or suggestions which the Examiner erroneously attributes to it and, for that reason, the Examiner has not made and cannot make a *prima facie* demonstration of obviousness based on Werling et al. and Bowen et al. and this ground of rejection is respectfully submitted to be clearly in error. Further, as above, it is respectfully submitted that the Examiner’s evaluation of Werling et al. is, itself, ample evidence that hindsight has been employed as reflected in the erroneous assertions made.

Further, it is respectfully submitted that claims 11, 12 and 15 are separately patentable. Werling et al. does not, in fact, distinguish between antennas which are touched or covered (claim 11) or provision of a touch sensor (claim 12) but only determines the direction of sufficiently proximate human flesh while appearing to assume that the antenna characteristics are not, in fact, degraded by the presence of human flesh but that the transmitted signals remain sufficiently strong to cause damage



thereto unless the antenna radiation pattern is modified. In regard to claim 15, while Werling et al. may teach a plurality of detectors, the detectors provided do not answer the qualifications thereof recited in claim 9. Therefore, the Examiner has not made and cannot make a *prima facie* demonstration of obviousness of any of the dependent claims included within this ground of rejection.

The rejection of claim 2 based on Mizoguchi, Werling et al. and Narayanaswamy et al.

In regard to dependent claim 2, the Examiner relies upon the propriety of the rejection of claim 1, from which claim 2 depends and further asserts that the combination of Mizoguchi and Werling et al. teach a foldable housing, which is correct in regard to Mizoguchi. The Examiner then cites Narayanaswamy et al. for teaching the recited hinge between the parts of the folding housing.

Argument

While Narayanaswamy et al. may include mention of a hinge as well as other techniques such as a sliding member for providing the require half-wavelength separation between the antennas thereof, as discussed above, the teachings of Narayanaswamy et al. do not mitigate the deficiencies of the basic combination of Mizoguchi and Werling et al. as discussed above and the Examiner has not suggested that they do. Therefore, while claim 2 may not be separately patentable from claim 1, the Examiner has not made a *prima facie* demonstration that claim 2 is unpatentable under 35 U.S.C. §103.

The rejection of claim 6 based on Mizoguchi, Werling et al. and Bowen et al.

In this ground of rejection, the Examiner also relies upon the propriety of the asserted ground of rejection of claim 1 from which claim 6 depends; citing Bowen et al. as teaching an optical sensor admittedly absent from Mizoguchi and Werling et al.

### Argument

While, as discussed above, Bowen et al. teaches an optical proximity sensor in combination with a mobile radio communication device, Bowen et al. does so for a purpose completely unrelated to the teachings, suggestions or purposes of either Mizoguchi or Werling et al. and hence (similarly to the above discussion of claim 9), does not mitigate any of the deficiencies of the combination of Mizoguchi and Werling et al. as discussed above and thus the Examiner has not made and cannot make a *prima facie* demonstration of obviousness in regard to the subject matter of claim 6. Moreover, in this regard, while the optical sensor of Bowen et al. may not radiate strong power at radio frequencies, it is certainly not “passive” as Werling et al. teaches to be desirable and thus Bowen teaches away from Werling et al. as pointed out above. Further, it is respectfully submitted that the application of Bowen et al. notwithstanding the extreme differences in purposes between Bowen et al. and Mizoguchi and Werling et al. is clearly indicative of the impermissible utilization of hindsight in this ground of rejection. Therefore, it is respectfully submitted that claim 6 is separately patentable.

### The rejection of claim 10 based on Werling et al., Bowen et al. and Narayanaswamy et al.

Again, the Examiner relies on the asserted propriety of the rejection of claim 9, from which claim 10 depends. The Examiner admits that neither Werling et al. nor Bowen et al. teaches a housing having two parts which are hinged together and cites Narayanaswamy et al. for such purpose.

### Argument

While Narayanaswamy et al. may include mention of a hinge between housing

portions as well as other techniques such as a sliding member for providing the required half-wavelength separation between the antennas thereof, as discussed above, the teachings of Narayanaswamy et al. do not mitigate the deficiencies of the basic combination of Werling et al. and Bowen et al. as discussed above and the Examiner has not suggested that they do. Therefore, while claim 10 may not be separately patentable from claim 1, the Examiner has not made a *prima facie* demonstration that claim 2 is unpatentable under 35 U.S.C. §103.

The rejection of claim 14 based on Werling et al., Bowen et al. and Mizoguchi

The Examiner again relies on the asserted propriety of the rejection of claim 9 from which claim 14 depends and relies on Mizoguchi for teaching detection of an antenna impedance change, admittedly absent from the teachings of Werling et al. and Bowen et al.

Argument

The insufficiency of Mizoguchi to mitigate any of the deficiencies of Werling et al. has been discussed above in the discussion of the rejection of claim 1. The insufficiency of Bowen et al. to mitigate any of the deficiencies of Werling et al. has been discussed above in regard to the rejection of claim 9. Additionally, it is respectfully submitted that the Examiner has erred in regard to or glossed over the explicit recitations of the claims in including reliance on Mizoguchi since, as discussed above, Mizoguchi detects a change in reflected power or a change in electrical field strength and not an impedance change of the antenna as recited in claim 14. Moreover, any proposed modification of Werling et al., whether or not in combination with Bowen et al. would be improper under the precedent of *In re Gordon* 221 USPQ 1125 (Fed. Circ., 1984) since Mizoguchi detects reflected power or electrical field at normal transmission power from which Werling et al. teaches directly away, as “noxious”.

Therefore, it is respectfully submitted that this asserted ground of rejection is clearly in error and the Examiner has not made and cannot make a *prima facie* demonstration of obviousness while improperly combining references and proposing improper modifications and nevertheless leaving explicit recitations of the claim unanswered. Moreover, the improper combination and suggested modification based on Mizoguchi is also respectfully submitted to be evidentiary of an attempted hindsight reconstruction of the invention.

#### Summary

To summarize, in accordance with the invention as claimed, the Applicant is using a plurality of antennas yet only one antenna is operating at a time. The selection of the antenna to be used is made by a switch that is activated using sensors which detects when a user's head or hand is covering or partially covering one of the antennas. None of the references cited provide multiple antenna that are each separately capable of two-way communications. For Mizoguchi, the second antenna is used only as part of a detector circuit and does not transmit the two-way communications. In Werling et al. the multiple antennas are clustered together and used to form a single antenna array. The individual antennas of Werling et al. are not configured to perform two-way communication separately. They can only function in a combined configuration so that they communicate as a group or not at all. Further, the sensors of Werling et al. merely indicate the direction of proximate human flesh and not necessarily any deterioration of antenna characteristics or covering of the antenna, as claimed. In Bowen et al., there is no discussion relative to any antennas as Bowen et al. simply focuses on switching from a handset configuration to a loudspeaker configuration. Finally, Narayanaswamy et al. has two antennas but does not switch between them and neither antennas is configured to operate independently of the other antenna. In fact, Narayanaswamy et al. to function in the intended manner,

requires that both antennas be capable of operating at the same time to take advantage of the  $\frac{1}{2}$  wavelength separation for antenna signal diversity.

Moreover, throughout the final rejection, the Examiner has clearly equated or at least confused the covering of an antenna and change of antenna impedance, as claimed, with detection of other parameters or conditions which are not at all equivalent, involve different conditions (some of which may be “noxious”) and do not directly indicate the claimed conditions or may not even infer them. This glossing over the explicit recitations of the claims by the Examiner does not justify the Examiner’s stated rationale but underscores the impropriety of the grounds of rejection asserted.

Reading any combination of the four cited references, the person of ordinary skill in the art still would not be taught the presently claimed invention nor would one of ordinary skill in the art be led to the solution provided by the invention or any expectation of success in deriving the meritorious effects of the present invention (the automatic correction for the covering of an antenna or degradation of antenna characteristics) by any means, much less by means of the subject matter claimed. The person of ordinary skill in the art would lack the idea to use a sensor to control and a switch to select a single antenna from a plurality of antennas to improve the signal quality of a two-way communications, because that concept is not taught or suggested by any of the cited references and would therefore be beyond the thinking of a person of ordinary skill in the art. Further, by erroneously evaluating the references and/or glossing over explicit recitations of the claims the Examiner has not only failed to make a *prima facie* demonstration of obviousness in regard to any claim but has made a clear indication that hindsight has been relied upon in each asserted ground of rejection.

Conclusion

In view of the foregoing it is respectfully submitted that the obviousness rejections pertaining to Claims 1 - 3, 5 - 12, 14, and 15 are clearly in error and cannot be maintained. Accordingly, it is respectfully requested that the position taken by the Examiner in each respective ground of rejection be reversed.

02530025AA

ARGUMENT VIII. REJECTION OTHER THAN 35 U.S.C. §§102, 103 AND 112

There are no rejections other than under 35 U.S.C. §102, 103 and 112.

VIII. CLAIMS APPENDIX

The text of the claims involved in the appeal are:

Listing of the Claims:

Below is a listing of all claims using a strikethrough and underlining to show changes.

1. A portable radio terminal device for radio communication by using an antenna provided in a housing, comprising:
  - a first antenna capable of transmission disposed in a lower part of the housing and a second antenna capable of transmission disposed in an upper part of the housing for radio communication, said first antenna and said second antenna being selectively switched for use;
  - a sensor for sensing when the first antenna or the second antenna is covered and outputting a detection signal; and
  - means for switching between said first antenna and said second antenna for use based on said detection signal.
2. The portable radio terminal device according to claim 1, wherein the housing is of a foldable type and the lower part and the upper part are hinged together by a hinge part.
3. The portable radio terminal device according to one of claims 1, wherein one of the first or the second antenna is predetermined to be a default antenna.
4. (cancelled)
5. The portable radio terminal device according to claim 1, wherein the sensor is a touch sensor.



6. The portable radio terminal device according to claim 1, wherein the sensor is an optical sensor.
7. The portable radio terminal device according to claim 1, wherein a plurality of sensors are used to sense the extent of covering of the antenna.
8. The portable radio terminal device according to claim 1, wherein the sensor is an impedance change detecting means for detecting a change in the impedance of the antenna.
9. A portable radio terminal device comprising:
  - a plurality of transmission antennas separately provided;
  - a detector for detecting the deterioration of an antenna characteristic; and
  - a switch for switching, on the basis of the detected result, the operation from the deteriorated transmission antenna to a different transmission antenna, and
  - wherein the detector is an optical sensor sensitive to light intensity change.
10. The portable radio terminal device according to claim 9, wherein the portable radio terminal device is a foldable type including a first housing provided with a first antenna and a second housing provided with a second antenna which are hinged together by a hinge part.
11. The portable radio terminal device according to claim 9, wherein the detector detects the antenna at least a part of which is covered with a hand or is touched with a head.
12. The portable radio terminal device according to claim 9, wherein the detector is a

touch sensor for detecting the touch of hand or head.

13. (cancelled)

14. The portable radio terminal device according to claim 9, wherein the detector detects an impedance change of the antenna.

15. The portable radio terminal device according to claim 1, wherein a plurality of detectors are provided.

02530025AA

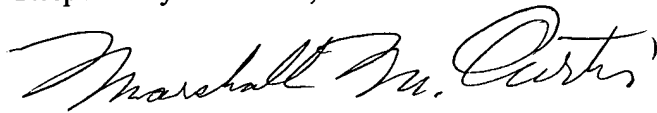
IX. EVIDENCE APPENDIX

No evidence was submitted in this case under 37 C.F.R. 1.130, 1.131, or 1.132 and no evidence was entered separately by the Examiner.

X. RELATED PROCEEDINGS APPENDIX

No decisions have been rendered in any court or by the Board in a related appeal or interference.

Respectfully submitted,

A handwritten signature in black ink, reading "Marshall M. Curtis". The signature is written in a cursive, flowing style with a large initial 'M' and a distinct 'C' at the end.

Marshall M. Curtis  
Reg. No. 33,138

Whitham, Curtis & Christofferson, P.C.  
11491 Sunset Hills Road, Suite 340  
Reston, VA 20190  
Tel. (703) 787-9400  
Fax. (703) 787-7557  
Customer No. 30743